

25 Sep 1992

GE7TB-C

GENERATOR, FUNCTION

1. GENERAL. This procurement requires a general purpose, solid-state, sweep function generator.

2. CLASSIFICATION. Type II, Class 5, Style E, and Color R in accordance with MIL-T-28800 for shipboard applications.

3. OPERATIONAL REQUIREMENTS. The equipment shall be capable of producing sine, square, triangle, positive pulse, and negative pulse waveforms with sweep and burst operation. The equipment shall operate within the minimum modes, ranges, and accuracies specified below. Specifications shall apply at maximum output.

3.1 Frequency range. 0.2 Hz to 3 MHz.

3.1.1 Frequency accuracy. $\pm 20\%$ of indication.

3.1.2 Frequency response. ± 1 dB maximum for sine-wave outputs.

3.1.3 Sine-wave distortion. 3% maximum.

3.1.4 Rise and fall times. 40 ns or less for square and pulse waveforms when the equipment is terminated into 50 ohms.

3.1.5 Triangle linearity. 95% minimum.

3.2 Amplitude control. Adjustable 5 mV to 10V peak-to-peak into 50 ohms.

3.3 Impedance. 50 ohms $\pm 5\%$.

3.4 Sweep function.

3.4.1 Start and stop frequencies. The sweep function start and stop frequencies shall be independently settable throughout the selected range.

3.4.2 Sweep duration. Variable from 1 ms to 100s.

3.5 Burst function. Tone and sweep burst operation shall be provided.

3.5.1 Burst duration. Variable from 10 μ s to 10s.

3.6 Trigger and gate. Manual trigger, external trigger, and external gating capability shall be provided.

3.7 Pulse width. 160 ns to 2.5s with a repetition rate adjustable from 0.01 Hz to 1 kHz.

3.8 External voltage control. The capability shall be provided to proportionally vary the output frequency by application of a voltage.

3.9 Offset. The capability shall be provided to vary the waveform about ground to at least ± 10 volts peak. Peak ac plus dc offset shall be at least ± 10 volts.

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4. GENERAL REQUIREMENTS.

4.1 Power source. MIL-T-28800 nominal power source requirements are invoked. Maximum power consumption: 120W.

4.2 Weight. 20 kg (44 lb) Maximum.

4.3 Lithium batteries. Per MIL-T-28800, lithium batteries are prohibited without prior authorization. A request for approval for the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.